

What is claimed is:

1 1. A pixel structure of an active matrix organic
2 light-emitting diode (OLED) display, comprising:

3 a first transistor having a gate terminal coupled to
4 a scan signal and a drain terminal coupled to a
5 data signal;

6 a storage capacitor having two terminals coupled to
7 a source terminal of the first transistor and a
8 reference node respectively, the reference node
9 having a second voltage;

10 a second transistor having a gate terminal coupled
11 to the source terminal of the first transistor
12 and a source terminal coupled to the reference
13 node; and

14 an OLED having a cathode coupled to a drain terminal
15 of the second transistor and an anode coupled
16 to a first voltage exceeding the second
17 voltage;

18 wherein the second transistor is an amorphous
19 silicon thin film transistor (a-Si TFT), and an
20 equivalent channel width/length (W/L) ratio of
21 the second transistor exceeds 10.

1 2. The pixel structure as claimed in claim 1,
2 wherein the second voltage is a ground or a low voltage.

1 3. A pixel structure of an active matrix organic
2 light-emitting diode (OLED) display, comprising:

3 a switching transistor having a gate terminal
4 coupled to a scan signal and a drain terminal
5 coupled to a data signal;
6 a storage capacitor having two terminals coupled to
7 a source terminal of the switching transistor
8 and a reference node respectively, the
9 reference node having a second voltage;
10 a plurality of driving transistors connected in
11 parallel, each having a gate terminal coupled
12 to the source terminal of the switching
13 transistor, a source terminal coupled to the
14 reference node, and a drain terminal; and
15 an OLED having a cathode coupled to the drain
16 terminals of the driving transistor and an
17 anode coupled to a first voltage exceeding the
18 second voltage;
19 wherein the driving transistors are amorphous
20 silicon thin film transistors (a-Si TFT),
21 wherein the relationship between an equivalent
22 channel width/length (W/L) ratio R of the
23 driving transistor and the number of driving
24 transistors N is $R \geq \frac{10}{N}$.

1 4. The pixel structure as claimed in claim 3,
2 wherein the second voltage is a ground or a low voltage.

1 5. An active matrix organic light-emitting diode
2 (OLED) display, comprising:

3 a panel, comprising a plurality of pixels, each
4 comprising a first transistor having a gate

5 terminal coupled to a scan signal and a drain
6 terminal coupled to a data signal; a storage
7 capacitor having two terminals coupled to a
8 source terminal of the first transistor and a
9 reference node respectively, the reference node
10 having a second voltage; a second transistor
11 having a gate terminal coupled to the source
12 terminal of the first transistor and a source
13 terminal coupled to the reference node; and an
14 OLED having a cathode coupled to a drain
15 terminal of the second transistor and an anode
16 coupled to a first voltage exceeding the second
17 voltage; wherein the second transistor is an
18 amorphous silicon thin film transistor (a-Si
19 TFT), and an equivalent channel width/length
20 (W/L) ratio of the second transistor exceeds
21 10.

1 6. The active matrix OLED display as claimed in
2 claim 5, wherein the second voltage is a ground or a low
3 voltage.

1 7. An active matrix organic light-emitting diode
2 (OLED) display, comprising:

3 a panel, comprising a plurality of pixels, each
4 comprising a switching transistor having a gate
5 terminal coupled to a scan signal and a drain
6 terminal coupled to a data signal; a storage
7 capacitor having two terminals coupled to a
8 source terminal of the switching transistor and
9 a reference node respectively, the reference

10 node having a second voltage; a plurality of
11 driving transistors connected in parallel, each
12 having a gate terminal coupled to the source
13 terminal of the switching transistor, a source
14 terminal coupled to the reference node and a
15 drain terminal; and an OLED having a cathode
16 coupled to the drain terminals of the driving
17 transistor and an anode coupled to a first
18 voltage exceeding the second voltage; wherein
19 the driving transistors are amorphous silicon
20 thin film transistors (a-Si TFT), wherein the
21 relationship between an equivalent channel
22 width/length (W/L) ratio R of the driving
23 transistor and the number of driving
24 transistors N is $R \geq \frac{10}{N}$.

1 8. The active matrix OLED display as claimed in
2 claim 7, wherein the second voltage is a ground or a low
3 voltage.

1 9. A pixel structure of an active matrix organic
2 light-emitting diode (OLED) display, comprising:
3 a first transistor having a gate terminal coupled to
4 a scan signal and a drain terminal coupled to a
5 data signal;
6 a storage capacitor having two terminals coupled to
7 a source terminal of the first transistor and a
8 reference node respectively, the reference node
9 having a second voltage;

10 a second transistor having a gate terminal coupled
11 to the source terminal of the first transistor
12 and a drain terminal coupled to the reference
13 node; and
14 an OLED having an anode coupled to a source terminal
15 of the second transistor and a cathode coupled
16 to a first voltage less than the second
17 voltage;
18 wherein the second transistor is an amorphous
19 silicon thin film transistor (a-Si TFT), and an
20 equivalent channel width/length (W/L) ratio of
21 the second transistor exceeds 10.

1 10. The pixel structure as claimed in claim 9,
2 wherein the second voltage is a high voltage.

1 11. A pixel structure of an active matrix organic
2 light-emitting diode (OLED) display, comprising:
3 a switching transistor having a gate terminal
4 coupled to a scan signal and a drain terminal
5 coupled to a data signal;
6 a storage capacitor having two terminals coupled to
7 a source terminal of the switching transistor
8 and a reference node respectively, the
9 reference node having a second voltage;
10 a plurality of driving transistors connected in
11 parallel, each having a gate terminal coupled
12 to the source terminal of the switching
13 transistor, a drain terminal coupled to the
14 reference node, and a source terminal; and

15 an OLED having an anode coupled to the source
16 terminals of the driving transistor and a
17 cathode coupled to a first voltage less than
18 the second voltage;
19 wherein the driving transistors are amorphous
20 silicon thin film transistors (a-Si TFT), and
21 the relationship between an equivalent channel
22 width/length (W/L) ratio R of the driving
23 transistor and the number of driving
24 transistors N is $R \geq \frac{10}{N}$.

1 12. The pixel structure as claimed in claim 11,
2 wherein the second voltage is a ground or a high voltage.

1 13. An active matrix organic light-emitting diode
2 (OLED) display, comprising:

3 a panel, comprising a plurality of pixels, each
4 comprising a first transistor having a gate
5 terminal coupled to a scan signal and a drain
6 terminal coupled to a data signal; a storage
7 capacitor having two terminals coupled to a
8 source terminal of the first transistor and a
9 reference node respectively, the reference node
10 having a second voltage; a second transistor
11 having a gate terminal coupled to the source
12 terminal of the first transistor and a drain
13 terminal coupled to the reference node; and an
14 OLED having an anode coupled to a source
15 terminal of the second transistor and a cathode
16 coupled to a first voltage less than the second

1 14. The active matrix OLED display as claimed in
2 claim 13, wherein the second voltage is a high voltage.

1 15. An active matrix organic light-emitting diode
2 (OLED) display, comprising:

3 a panel, comprising a plurality of pixels, each
4 comprising a switching transistor having a gate
5 terminal coupled to a scan signal and a drain
6 terminal coupled to a data signal; a storage
7 capacitor having two terminals coupled to a
8 source terminal of the switching transistor and
9 a reference node respectively, the reference
10 node having a second voltage; a plurality of
11 driving transistors connected in parallel, each
12 having a gate terminal coupled to the source
13 terminal of the switching transistor, a drain
14 terminal coupled to the reference node, and a
15 source terminal; and an OLED having an anode
16 coupled to the source terminals of the driving
17 transistor and a cathode coupled to a first
18 voltage less than the second voltage; wherein
19 the driving transistors are amorphous silicon
20 thin film transistors (a-Si TFT), and the
21 relationship between an equivalent channel
22 width/length (W/L) ratio R of the driving

23 transistor and the number of driving

1 16. The active matrix OLED display as claimed in
2 claim 15, wherein the second voltage is a high voltage.